

WHAT IS CLAIMED IS:

1. A platform useful for containing one or more dry porous membranes for detecting at least one component in a low volume liquid sample, the membrane providing a membrane channel through which the liquid sample can flow by capillary action while reactions take place determinative of at least one component in the sample;

the platform formed with sample application means and having top and bottom layers with hydrophilic surfaces to enclose and position the membrane, each layer having a top and bottom layer surface formed so that the bottom surface of the top layer and the top surface of the bottom layer may be brought into fixed face to face contact so that the layers enclose and hold the membrane in place and form a platform flow channel upstream of the membrane and including an indent in at least one of the hydrophilic surfaces, the formed channel being in communication with the membrane to permit the liquid sample to flow in a continuous pathway from the sample application means to the distal end of the membrane.

2. A platform according to claim 1 in which the platform flow channel is formed with an indent in the bottom surface of the top layer.

3. A platform according to claim 1 in which the platform flow channel is formed in the top surface of the bottom layer.

4. A platform according to claim 1 in which the platform flow channel is formed with indents in the top surface of the bottom layer and in the bottom surface of the top layer.

5. A platform according to claim 1 in which there is a window in the top layer for observing the results of a reaction which takes place in the membrane.

6. A device useful for the rapid and efficient detection of at least one component in a low volume liquid sample, the device containing a membrane in which reactions take place determinative of the presence of at least one component in the sample;

the membrane being enclosed in a platform formed with sample application means and having top and bottom layers with hydrophilic surfaces fixed to each other through face to face contact of the bottom surface of the top layer and the top surface of the bottom layer to enclose and position the membrane, the surfaces in such face to face contact forming a platform flow channel upstream of the membrane and including an indent in at least one of the hydrophilic surfaces, the formed channel being in communication with the membrane to permit the liquid sample to flow in a continuous pathway from the application means to the distal end of the membrane.

7. A device according to claim 6 in which the platform flow channel is formed with an indent in the bottom surface of the top layer.

8. A device according to claim 6 in which the platform flow channel is formed with an indent in the top surface of the bottom layer.

9. A device according to claim 6 in which the platform flow channel is formed with indents in the top surface of the bottom layer and the bottom surface of the top layer.

10. A device according to claim 6 in which there is a window in the top layer for observing the results of a reaction which takes place in the membrane.

11. A device according to claim 6 in which the membrane contains one or more reagent[s] for detecting one or more analyte[s].

12. A device according to claim 11 in which the analyte is selected from the group consisting of hCG, LH, PSA, Myoglobin, Troponin I, Troponin T, Creatinine Kinase MB, C Reactive Protein, ApoB 100, and Brain Natriuretic Peptide.

13. A device according to claim 6 in which the membrane contains the reagents for detecting Troponin I or Troponin T.

14. A device according to claim 6 in which the membrane contains the reagents for detecting hCG.

15. A device according to claim 6 in which the membrane contains the reagents for detecting LH.

16. A device according to claim 6 in which the membrane contains the reagents for detecting PSA.

17. A device according to claim 6 in which the membrane contains the reagents for detecting C Reactive Protein.

18. A device according to claim 6 in which the membrane contains the reagents for detecting ApoB 100.

19. A device according to claim 6 in which the membrane contains the reagents for detecting Brain Natriuretic Peptide.

20. A device useful for the rapid and efficient detection of one or more components in whole blood sample, the device containing an upstream detection membrane and a downstream capture membrane, the detection membrane constructed to filter substantially all of the red blood cells from the sample and containing a mobile labeled detecting reagent which will react with the component to form a reaction product which moves downstream in the detection membrane;

a capture membrane downstream of the detection membrane and containing a fixed, immobile capture reagent which will react with and concentrate the reaction product at a capture line, the downstream end of the detection membrane slightly overlapping the upstream end of the capture membrane;

the membranes being enclosed in a platform formed with sample application means and having top and bottom layers with hydrophilic surfaces fixed to each other through face to face contact of the bottom surface of the top layer and the top surface of the bottom layer to enclose both membranes while they remain in the overlapping relationships;

the surfaces in such face to face contact forming a platform flow channel upstream of the detecting membrane and including an indent in at least one of the hydrophilic surfaces, and the formed channel being in communication with the upstream end of the detecting membrane to permit the sample to flow in a continuous pathway from the application means through the detection membrane to the distal end of the capture membrane.

21. A device according to claim 20 in which the platform flow channel is formed with an indent in the bottom surface of the top layer.
22. A device according to claim 20 in which the platform flow channel is formed with an indent in the top surface of the bottom layer.
23. A device according to claim 20 in which the platform flow channel is formed with indents in the top surface of the bottom layer and bottom surface of the top layer.
24. A device according to claim 20 in which there is a window in the top layer for observation of the results of a reaction which takes place in the capture membrane.
25. A device according to claim 20 in which the detection membrane contains one or more reagent[s] for detecting one or more analyte[s].
26. A device according to claim 25 in which the analyte is selected from the group consisting of hCG, LH, PSA, Myoglobin, Troponin I, Creatinine Kinase MB, C Reactive Protein, ApoB 100, and Brain Natriuretic Peptide.
27. A device according to claim 20 in which the detection membrane contains reagents for detecting hCG.
28. A device according to claim 20 in which the detection membrane contains the reagents for detecting LH.

29. A device according to claim 20 in which the detecting membrane contains the reagents for detecting PSA.
30. A device according to claim 20 in which the detecting membrane contains the reagents for detecting C Reactive Protein.
31. A device according to claim 20 in which the detecting membrane contains the reagents for detecting ApoB 100.
32. A device according to claim 20 in which the detecting membrane contains the reagents for detecting Brain Natriuretic Peptide.
33. A device according to claim 20 in which the detecting membrane is a glass fibre membrane and the capture membrane is a nitrocellulose membrane.
34. A device according to claim 20 in which the membranes are covered with a transparent cover layer.
35. A device according to claim 34 in which the cover layer is a polyester film.